



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--------------------------------------------------------------------------------------------|-------------|----------------------|------------------------------|------------------------|
| 10/768,343 | 01/30/2004 | Pekka Pessi | 037145-1001 | 6359 |
| 30542 7590 06/18/2007 FOLEY & LARDNER LLP P.O. BOX 80278 SAN DIEGO, CA 92138-0278 | | | EXAMINER BELANI, KISHIN G | |
| | | | ART UNIT 2143 | PAPER NUMBER |
| | | | MAIL DATE 06/18/2007 | DELIVERY MODE PAPER |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|-------------------------------|------------------------------|--|
| Office Action Summary | Application No. 10/768,343 | Applicant(s) PESSI, PEKKA | |
| | Examiner Kishin G. Belani | Art Unit 2143 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|----------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>8/15/2005, 7/26/2004</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Information Disclosure Statement

The information disclosure statements submitted on 08-15-2005 and 07/26/2004 have been considered by the Examiner and made of record in the application file.

Specification

The disclosure is objected to because of the following informalities:

In paragraph 0005, line 5, change "piggy-packed" to – piggy-backed --.

In paragraph 0031, line 11, change "messages has been" to – messages have been --.

Appropriate correction is required.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 16-20 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Consider **claim 16**, "a computer program product" in accordance with the applicant's specification is non-statutory by itself, unless it is stored on a computer

readable medium like diskette, CDROM, non-volatile ROM device, etc. This subject matter is not limited to that which falls within a statutory category of invention because it is not limited to a process, machine, manufacture, or a composition of matter.

Claims 17-20 are rejected by virtue of their dependency on claim 16.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 15 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 15 contradicts **claims 1, 7, 12, and 16**, which disclose that control messages are received in compressed form, detected, and decompressed by the receiving device; whereas **claim 15** discloses that the control messages are received in uncompressed form. Please clarify.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

Art Unit: 2143

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-9, 11-13, and 15-20 are rejected under 35 U.S.C. 102(e) as being anticipated by **Watson et al. (U.S. Patent Publication # 7,213,143 B1)**.

Consider **claim 1**, Watson et al. show and disclose a method for communicating messages using a signaling compression protocol (Fig. 4 showing SIP network with compressed data; column 1, lines 40-43 that disclose the contents of SIP messages; column 2, lines 19-20 that disclose SIP compression), the method comprising: detecting control messages at a communication intermediary from a compressed stream of messages (column 2, lines 27-29 which disclose that SIGCOMP is used link-by-link, i.e. between an end device and first proxy or between pair of proxies; column 2, lines 34-37 which disclose the presence of special byte-code to be run on a UDVM (Universal De-compressor Virtual Machine), thereby disclosing ability to detect control messages at a communication intermediary from a compressed stream of messages); decompressing the detected control messages at the communication intermediary (Fig. 4, that shows a SIP message after decompression by the communication intermediary (proxy device); column 7, lines 61-67 and column 8, line 1 that disclose the same details); and

passing user messages from the compressed stream of messages through the communication intermediary without modifications (column 1, lines 40-43 which disclose that message bodies carry information end-to-end between multi-media devices, but message headers carry routing information and are used by the proxies).

Consider **claim 2**, and **as it applies to claim 1 above**, Watson et al. do disclose a method, wherein the control messages comprise a multiplex identifier (column 2, lines 34-37 that disclose special byte-code in the first SIGCOMP message containing instructions to decompress the message).

Consider **claim 3**, and **as it applies to claim 2 above**, Watson et al. do disclose a method, wherein the multiplex identifier is located at the beginning of a communication session (column 2, lines 34-37 that disclose special byte-code in the first SIGCOMP message containing instructions to decompress the message).

Consider **claim 4**, and **as it applies to claim 2 above**, Watson et al. do disclose a method, wherein detecting control messages at a communication intermediary from a compressed stream of messages comprises detecting the multiplex identifier (column 2, lines 39-42 which disclose that subsequent messages rely on the state at the receiver (a communication intermediary) created by the previous messages, including the decompression code (including multiplex identifier) uploaded with the first message, thereby disclosing that the decompression code has been detected at the receiver).

Consider **claim 5**, and **as it applies to claim 2 above**, Watson et al. do disclose a method, wherein user messages are messages without the multiplex identifier (column 1, lines 40-43 which disclose that only message headers (control messages) carry routing information and protocol machinery and are used by proxies; message bodies (user messages) carry information end-to-end between multimedia devices, thereby disclosing that user messages are messages without the multiplex identifier).

Consider **claim 6**, and **as it applies to claim 1 above**, Watson et al. do disclose a method, wherein the control messages are hop-by-hop messages and user messages are end-to-end messages (column 1, lines 40-43 which disclose that only message headers (control messages) carry routing information and protocol machinery and are used by proxies (i.e. are hop-by-hop messages); whereas message bodies (user messages) carry information end-to-end between multimedia devices).

Consider **claim 7**, Watson et al. show and disclose a device that communicates messages using a signaling compression protocol (Fig. 3, security proxy devices 32 and 36 connected to SIP network; Fig. 4, showing security proxy device receiving compressed data; column 1, lines 40-43 that disclose the contents of SIP messages; column 2, lines 19-20 that disclose SIP compression), the device comprising:

an input that receives messages (Fig. 3 showing device 32 receiving input from UA1; Fig. 4 showing compressed message being sent from UA1 to a proxy device; column 6, lines 41-47 that disclose the same details);

an output that transmits messages (Fig.3, proxy device 32 shown connected to the SIP network; Fig. 4, showing security proxy device sending a SIP message to UA2; column 6, lines 41-47 that disclose the same details);

a processor that detects control messages included in the messages received by the input, wherein the processor decompresses the control messages and directs non-control messages to be communicated through the output without modification (column 7, lines 66-67 and column 8, line 1, that disclose decompression process carried out by the security proxy, thereby disclosing data processing capability; column 2, lines 27-29 which disclose that SIGCOMP is used link-by-link, i.e. between an end device and first proxy or between pair of proxies; column 2, lines 34-37 which disclose the presence of special byte-code to be run on a UDVM (Universal De-compressor Virtual Machine), thereby disclosing ability to detect control messages at a communication intermediary from a compressed stream of messages; column 1, lines 40-43 which disclose that message bodies carry information end-to-end between multi-media devices, but message headers carry routing information and are used by the proxies).

Consider **claim 8**, and **as it applies to claim 7 above**, Watson et al. do disclose a device, wherein the processor detects control messages by identifying a special byte-code contained in the control messages (column 2, lines 34-37 that disclose special

Art Unit: 2143

byte-code in the first SIGCOMP message containing instructions to decompress the message).

Consider **claim 9**, and **as it applies to claim 7 above**, Watson et al. do disclose a device, wherein the control messages are uncompressed (Fig. 4, that shows security proxy uncompressing SIP message; column 7, lines 66-67 and column 8, line 1 which disclose that the security proxy decompresses the message according to SIP compression).

Consider **claim 11**, and **as it applies to claim 7 above**, Watson et al. do disclose a device, wherein the modification comprises decompression (column 8, lines 64-67 and column 9, lines 1-8 which disclose that the security proxy provides a method for end-to-end compression, thereby disclosing no modification (i.e. decompression) of user packets).

Consider **claim 12**, Watson et al. show and disclose a system for communicating messages using a signaling compression protocol (Fig. 4 showing SIP network with compressed data; column 1, lines 40-43 that disclose the contents of SIP messages; column 2, lines 19-20 that disclose SIP compression), the system comprising: a first communication device having a compressor and a de-compressor (Fig. 3, UA1 block 30 as a first communication device; Fig. 4, showing compressed data being sent from UA1 to Security proxy for encryption; column 7, lines 61-62 which disclose that

UA1 compresses the outgoing message, thereby disclosing a compressor within UA1; column 8, lines 28-29 which disclose that UA1 performs decompression on the received message, thereby disclosing a de-compressor within UA1);

a second communication device having a compressor and a de-compressor (Fig. 3, UA2 block 38 as a second communication device; column 7, lines 19-22 which disclose that UA2 receives decrypted but compressed message from the receiving proxy, thereby disclosing a de-compressor within UA2 to uncompress the received message; column 7, lines 23-26 which disclose compression over low-bandwidth links 31 (at UA1) and 37 (at UA2), thereby disclosing a

compressor within UA2); and

an intermediate relay between the first communication device and the second communication device that detects and decompresses control messages in messages communicated from the first communication device, and passes user messages through to the second communication device without decompression (Fig. 3, unmarked intermediate relays 32 and 36; column 2, lines 27-29 which disclose that SIGCOMP is used link-by-link, i.e. between an end device and first proxy or between pair of proxies; column 2, lines 34-37 which disclose the presence of special byte-code to be run on a UDVM (Universal De-compressor Virtual Machine), thereby disclosing ability to detect control messages at a communication intermediary from a compressed stream of messages; Fig. 4, that shows a SIP message after decompression by the communication intermediary (proxy device); column 7, lines 61-67 and column 8, line 1 that disclose the same details; column 1, lines 40-43 which disclose that message

Art Unit: 2143

bodies carry information end-to-end between multi-media devices, but message headers carry routing information and are used by the proxies).

Consider **claim 13**, and **as it applies to claim 12 above**, Watson et al. do disclose a system, wherein the intermediate relay detects control messages when the intermediate relay detects an identifier located in the messages (column 2, lines 34-37 that disclose special byte-code in the first SIGCOMP (control) message containing instructions to decompress the message).

Consider **claim 15**, and **as it applies to claim 12 above**, Watson et al. disclose a system, wherein messages communicated from the first communication device comprise compressed and uncompressed messages, the control messages being uncompressed and the user messages being compressed (column 1, lines 40-43 which disclose that message headers (control messages) carry routing information and are used by the proxies, but message bodies (user messages) carry information end-to-end between multimedia devices and therefore can remain compressed; column 2, lines 27-29 which disclose that SIGCOMP is used link-by-link and therefore needs to be uncompressed).

Consider **claim 16**, Watson et al. disclose a computer program product comprising: computer code configured to: detect control messages at a communication intermediary from a stream of messages (claims 25 and 26; column 2, lines 27-29 which

disclose that SIGCOMP is used link-by-link, i.e. between an end device and first proxy or between pair of proxies; column 2, lines 34-37 which disclose the presence of special byte-code to be run on a UDVM (Universal De-compressor Virtual Machine), thereby disclosing ability to detect control messages at a communication intermediary from a compressed stream of messages);

decompress the detected control messages at the communication intermediary (Fig. 4, that shows a SIP message after decompression by the communication intermediary (proxy device); column 7, lines 61-67 and column 8, line 1 that disclose the same details); and

communicate user messages from the stream of messages through the communication intermediary without modification (column 1, lines 40-43 which disclose that message bodies carry information end-to-end between multi-media devices, but message headers carry routing information and are used by the proxies).

Consider **claim 17**, and as it applies to **claim 16 above**, Watson et al. disclose a computer program product, further comprising computer code to identify a byte code designating a control message (column 2, lines 34-37 that disclose special byte-code in the first SIGCOMP message containing instructions to decompress the message).

Consider **claim 18**, and as it applies to **claim 16 above**, Watson et al. disclose a computer program product, further comprising computer code to load a compression algorithm into a processor (column 2, lines 34-42 that disclose special byte-code in the

first SIGCOMP message containing instructions to decompress the message, which are uploaded with the first message).

Consider **claim 19**, and **as it applies to claim 16 above**, Watson et al. disclose a computer program product, further comprising computer code wherein the control messages are hop-by-hop messages (column 2, lines 27-29 which disclose that SIGCOMP is used link-by-link).

Consider **claim 20**, and **as it applies to claim 16 above**, Watson et al. disclose a computer program product, further comprising computer code wherein messages comprise compressed and uncompressed messages, the control messages being uncompressed and the user messages being compressed and a transition from uncompressed to compressed is signaled using a control message (column 2, lines 27-29 which disclose that SIGCOMP is used link-by-link, i.e. between an end device and first proxy or between pair of proxies, thereby disclosing uncompressed control messages; column 2, lines 34-37 which disclose the presence of special byte-code to be run on a UDVM (Universal De-compressor Virtual Machine), thereby disclosing ability to detect control messages at a communication intermediary from a compressed stream of messages; column 1, lines 40-43 which disclose that message bodies carry information end-to-end between multi-media devices, thereby disclosing that message bodies are forwarded in compressed form).

Claim 7 is rejected under 35 U.S.C. 102(e) as being anticipated by **Aalto et al.**
(U.S. Patent Application Publication # 2006/0075134 A1).

Consider **claim 7**, Aalto et al. show and disclose a device that communicates messages using a signaling compression protocol (abstract; Fig. 1 input unit 12, decompressing unit 14, and output unit 16 of the de-compressor block 10 receiving compressed header section, processing incoming messages, and transmitting the processed messages to the next device on the network; paragraph 0017 that discloses a signaling compression protocol), the device comprising:

an input that receives messages (Fig. 1, input unit 12 of the de-compressor block 10 receiving messages; paragraph 0104, lines 3-5 that disclose an input unit 12; paragraph 0105, lines 1-2 that disclose input unit 12 receiving data packets);

an output that transmits messages (Fig. 1, output unit 16 of the de-compressor block 10 transmitting messages; paragraph 0104, lines 3-5 that disclose an output unit 16);

a processor that detects control messages included in the messages received by the input, wherein the processor decompresses the control messages and directs non-control messages to be communicated through the output without modification (Fig. 1, decompressing unit 14 (a processor) of the de-compressor block 10 processing messages; paragraph 0104, lines 3-5 that disclose a decompressing unit 14; paragraph 0106 that discloses one or more predetermined algorithms to detect and decompress received messages, using header compression context table 18; paragraph 0117 which

discloses that only the header section (control message) is decompressed, the compressed data packets are passed to the output unit 16 without modification).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 10 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Watson et al. (U.S. Patent Publication # 7,213,143 B1)** in view of **Nessett et al. (U.S. Patent Publication # 6,421,734 B1)**.

Consider **claim 10**, and as it applies to **claim 7** above, Watson et al. show and disclose the claimed invention, including disclosing that the control messages are used at the beginning of a session (column 2, lines 34-37 that disclose special byte-code in

Art Unit: 2143

the first SIGCOMP message containing instructions to decompress the message), except disclosing that the processor enters a forwarding mode after the control messages are received.

In the same field of endeavor, Nessett et al. show and disclose that the processor enters a forwarding mode after the control messages are received (Fig. 5, Compression module 606 and Filter Setup module 607; column 7, lines 42-67 and column 8, lines 1-18 which disclose that the session filter is setup to identify packets; if the packets use the filter, they are forwarded without applying compression resources of the intermediate device).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide a device wherein the processor enters a forwarding mode after the control messages are received, as taught by Nessett et al., in the method of Watson et al., so as to eliminate unnecessary processing that cause delay in the delivery of the packets to the end device.

Consider **claim 14**, and **as it applies to claim 12 above**, Watson et al. show and disclose the claimed invention, except wherein the intermediate relay enters forwarding mode after control messages are received.

In the same field of endeavor, Nessett et al. show and disclose a system wherein the intermediate relay enters forwarding mode after control messages are received (Fig. 5, Compression module 606 and Filter Setup module 607; column 7, lines 42-67 and column 8, lines 1-18 which disclose that the session filter is setup to identify packets; if

Art Unit: 2143

the packets use the filter, they are forwarded without applying compression resources of the intermediate device).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide a system wherein the intermediate relay enters forwarding mode after control messages are received, as taught by Nessett et al., in the system of Watson et al., so as to eliminate unnecessary processing that cause delay in the delivery of the packets to the end device.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

US Patent Publication # 7,154,907 B2, inventors: Poikselka et al., filed 5/8/2003

Any response to this Office Action should be **faxed to (571) 273-8300 or mailed to:**

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Art Unit: 2143

Hand-delivered responses should be brought to

Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Kishin G. Belani whose telephone number is (571) 270-1768. The Examiner can normally be reached on Monday-Thursday from 6:30 am to 5:00 pm.

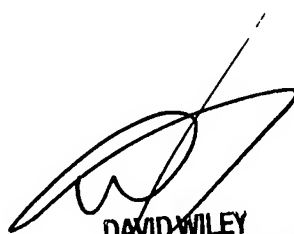
If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, David Wiley can be reached on (571) 272-3923. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or 703-305-3028.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist/customer service whose telephone number is (571) 272-0800.

Kishin G. Belani
K.G.B./kgb

June 9, 2007



DAVID WILEY
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100